FDM · FILAMENT · PETG FAMILY

PETG HF

The functional workhorse

Always in stock

TENSILE STRENGTH	STIFFNESS	SOFTENS FROM	DENSITY
34 MPa	2050 MPa	69 °C	1.28 g/cm³
printed flat	flexural modulus	HDT at 0.45 MPa	

WHAT IT IS LIKE

What we recommend whenever a part has a job to do. It is tougher than PLA and gives a little rather than snapping, copes with moderate heat, and stands up to water and sunlight. Fine detail comes out very slightly less crisp than in PLA.

GOOD FOR

- Brackets, mounts and replacement parts
- Outdoor fittings and enclosures
- Parts that get handled or knocked
- Anything that gets wet

THINK TWICE FOR

- × Running warm for long periods: ABS, ASA or PC
- × Very stiff parts: carbon-fibre blends are stiffer
- × The finest cosmetic detail: PLA or resin
- × Food contact or medical use: ask us first

HOW WE PRINT IT

Process	FDM on Bambu Lab X1C, enclosed
Layer height	0.2 mm standard; other heights on the quote form
Largest single part	256 × 256 × 256 mm
Infill	You choose, 10–100%
Colours	Tell us the colour you need
Finish	Slight gloss, as printed
Lead time	In stock: no wait for material

MECHANICAL PROPERTIES

PROPERTY	TEST STANDARD	PRINTED FLAT (X-Y)	PRINTED UPRIGHT (Z)
Tensile strength	ISO 527	34 ± 4 MPa	23 ± 4 MPa
Young's modulus	ISO 527	1810 ± 190 MPa	1540 ± 130 MPa
Elongation at break	ISO 527	8.6 ± 1.2 %	–
Flexural strength	ISO 178	64 ± 3 MPa	48 ± 4 MPa
Flexural modulus	ISO 178	2050 ± 120 MPa	1810 ± 140 MPa
Impact strength, Charpy unnotched	ISO 179	31.5 ± 2.2 kJ/m²	10.6 ± 1.2 kJ/m²

THERMAL AND PHYSICAL PROPERTIES

PROPERTY	TEST STANDARD	VALUE
Density	ISO 1183	1.28 g/cm³
Glass transition temperature	DSC, 10 °C/min	66 °C
Vicat softening temperature	ISO 306	70 °C
Heat deflection temperature, 0.45 MPa	ISO 75	69 °C
Heat deflection temperature, 1.8 MPa	ISO 75	62 °C
Melting temperature	DSC, 10 °C/min	214 °C

READING THESE FIGURES

Figures are typical values published by the filament manufacturer (Bambu Lab, PETG HF Technical Data Sheet V1.0), measured on test bars printed solid (100% infill). "Flat" is loaded along the layers (X-Y); "upright" is loaded across the layers (Z), which is always the weaker direction. A real part's strength depends on its shape, wall thickness, infill and the way it is orientated on the printer, so use these figures to compare materials, not as design allowables. If a part carries a critical load or runs warm, tell us and we will advise on material and orientation before printing.

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